REMARKS/ARGUMENTS

Claim 1 has been amended by incorporating subject matter from claim 3 into it.

Claim 3 has been canceled.

Claims 1, 2 and 4-20 are currently pending in the application.

The Office Action rejected claims 1-9 and 18-20 under 35 U.S.C § 102 as anticipated by U.S. patent 5,908,902 ("Pfeil"), claims 10-17 under 35 U.S.C § 103 as obvious over U.S. patent 5,968,645 ("Caccini") in view of Pfeil. In view of the following comments, Applicants respectfully request reconsideration and withdrawal of this rejection.

The invention aqueous sizing compositions comprise three components: an epoxy resin of a glycidyl ether prepared by reaction of epichlorohydrin with an alcohol, an amine hardener and an accelerator selected from the group consisting of imidazoles, imidazolines and mixtures thereof. These inventive compositions can be used to form insulation products.

Pfeil does not disclose the invention aqueous sizing composition, or its use on mineral fibers to form insulation products or as a sizing composition for mineral wool.

Pfeil's self-emulsifying epoxy resin (A) is a complex epoxy resin prepared from numerous components (A-1) to (A-4). (See, col. 4, lines 15-48). The epoxy resin incorporates the (A-4) emulsifier into its structure, thereby making it an internally emulsified resin. Further, Pfeil discloses an aqueous epoxy resin dispersion (I) comprising from 30 to 90% by mass of (A) self-emulsifying epoxy resin and (E) 5 from 70% of water, together with possible optional components (surfactant (B), reactive diluent (C) and inert organic solvent (D). (See, col. 4, line 49 through col. 5, line 3). This epoxy resin dispersion (I) can be used to provide aqueous coating compositions comprising (1) from 40 to 90% of the epoxy resin dispersion, (2) from 10 to 60% of an aqueous curing agent and (3) from 0 to 40% of customary additives, fillers, pigments and catalysts. (See, col. 5, line 62 - col. 6, line 6).

The Office Action asserts that Pfeil's epoxy resin can be prepared by the reaction of epichlorohydrin and an alcohol, citing col. 7, lines 7-10 of Pfeil. However, the cited passage refers to polyglycidyl esters obtained by reacting epichlorohydrin or similar epoxy compounds with an aliphatic, cycloaliphatic or aromatic polycarboxylic acid. The cited passage does not disclose the epoxy resin of diglycidyl ether as required by the claimed invention. Accordingly, it follows that Pfeil cannot teach or suggest an epoxy resin of a glycidyl ether as required in the claimed invention. For at least this reason Pfeil cannot teach or suggest the claimed invention.

The Office Action also asserts that Pfeil discloses using imidazole as an accelerator in his dispersion. (See, col. 11, lines 50-58). However, this is only true for coating compositions which include as hardener (II) an acidic hardener -- it is explicitly mentioned that the acidic hardener can be admixed with small quantities of compounds which catalyze the carboxyl/epoxide group reaction, such compounds being among others imidazole. (See, col. 11, lines 46-50). This disclosure neither teaches nor suggests anything related to basic hardeners. Given that the required hardener in the claimed invention is a basic hardener (amine), it follows that Pfeil cannot teach or suggest using imidazole as an accelerator as required in the claimed invention. For at least this additional reason Pfeil cannot teach or suggest the claimed invention.

Finally, the Office Action asserts that imidazole can be present in the amount of 5 to 50% by mass. (See, col. 11). This is not correct. The range in question applies to amine and/or phenolic resins which can be used in addition to the hardeners. (See, col. 11, lines 59-63).

For all of the above reasons, Pfeil by itself cannot teach or suggest the present invention.

In view of the above, Applicants respectfully request reconsideration and withdrawal of the rejections under 35 U.S.C. §102.

Regarding the rejection of claims 10-17 under 35 U.S.C. §103, Caccini does not compensate for Pfeil's deficiencies. Although Caccini relates to sizing compositions, Caccini does not teach or suggest the claimed sizing compositions including, in particular, the required accelerator. Thus, neither of the applied art teaches or suggests the required sizing compositions, meaning that their combination would not lead to the required sizing compositions. For at least this reason the obviousness rejection is improper and should be withdrawn.

Further, nothing in Caccini would motivate one of ordinary skill in the art to modify Pfeil's compositions and/or methods (that is, to disregard Pfeil's disclosure) to yield the inventive processes of claims 10-17. Pfeil's technical field differs from that of Caccini. Pfeil's technical field does not relate to insulation products made of mineral wool, but rather to coatings to be applied on several substrates, including glass substrates but not glass fibers. Thus, one of ordinary skill in the art would not be motivated to modify Pfeil's compositions and/or methods based upon Caccini's disclosure given their disparate subject matter and disparate goals.

This difference in technical field can be exemplified as follows. Pfeil teaches that his coating compositions have a very high hardness. However, such a high hardness coating composition would not be ideal or desirable for a sizing composition used to produce a sheet of mineral wool having a high resiliency such as in Caccini (the insulation product has a high degree of elasticity and recovers its initial thickness after being highly compressed). Further, Pfeil does not suggest that adding an accelerator selected from the group consisting of imidazoles, imidazolines and mixtures thereof may improve the mechanical strength after aging, in particular in a wet environment such as Caccini's. Thus, one of ordinary skill in the

art would not look to Caccini to modify Pfeil's compositions because the compositions have widely disparate properties and characteristics. Stated another way, the applied art is not properly combinable, and would not lead one of ordinary skill in the art to the claimed invention.

In view of the above, Applicants respectfully request reconsideration and withdrawal of the rejections under 35 U.S.C. §103.

Applicants believe that the present application is in condition for allowance. Prompt and favorable consideration is earnestly solicited.

Respectfully submitted,

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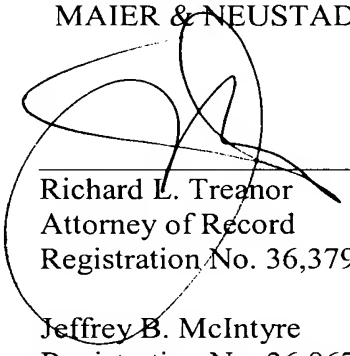

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